

**SAFETY, HEALTH, AND ENVIRONMENTAL MANAGEMENT PROTOCOL  
FOR FIELD ACTIVITIES****U.S. Environmental Protection Agency  
Research Triangle Park, North Carolina****PURPOSE**

To ensure adequate review of safety issues and equipment to identify potential hazards and to verify establishment of contact with facility safety representative(s).

*This protocol assumes that EPA personnel and their representatives will perform their facility visit escorted by a facility representative. This representative will be cognizant of the facility safety and emergency procedures, will provide to the EPA staff and representatives information on the essential facility safety and emergency procedures, and will remain with the EPA team while on site.*

**PART I. PROJECT INFORMATION**

Project Title: **Characterization of Air Emissions from Open Burning at Radford Army Ammunition Plant**

Dates/Duration of Field Activity: September 8-19, 2015

Principal Investigator (PI): Dr. Brian Gullett

Laboratory, Division, Branch:

NRMRL/APPCD/IODD

Phone: Office: 919-541-1534

Site (or Cell): 919-699-

3074

Field Site Name/Address: Radford Army Ammunition Plant, Radford, VA

Site type: Military ammunition manufacturing facility

(i.e., manufacturing plant, roadside, woods, contamination cleanup site, lake, etc.)

OMIS Task # (if applicable):

OMIS Title (if applicable):

**National Environmental Policy Act (NEPA) Requirements**

Will the project encounter / impact endangered species (plants / animals)? \_\_\_\_ Yes x \_\_\_\_ No

Will the project encounter / impact any historic sites (burial grounds, monuments, etc.)? \_\_\_\_ Yes x \_\_\_\_ No

Will the project involve drilling, soil samples, or any soil impact? \_\_\_\_ Yes x \_\_\_\_ No

Will the project involve any potential uncontrolled impacts to water / air / and/or discharges approaching regulatory limits?

\_\_\_\_ Yes x \_\_\_\_ No

NOTE: If YES to any of the above, please contact your Division NEPA Officer to conduct a review prior to approval.

PI Signature: B. Gullett  
(Principal Investigator must be an EPA employee)

Date:

9/8/15

PI Signature: \_\_\_\_\_  
(Principal Investigator must be an EPA employee)

Date: \_\_\_\_\_

**APPROVALS**

Branch Chief:

R. Shuman

Date:

9/9/15

Branch Chief: NA Date: \_\_\_\_\_  
 (Obtain signatures above prior to sending to the ORD SHEM Office (MD-D343-02 or archer.john@epa.gov))

ORD SHEM Office: [Signature] 09/02/2015 Date: \_\_\_\_\_

## PART II. PROJECT INFORMATION

A. Detailed Study Description (Research or Monitoring Protocol should be attached if applicable):

B.

The Radford Army Ammunition Plant (RFAAP) conducts on-site disposal of Mark 90 rocket motors via open burn pans. Data on potential combustion emissions and emission factors are available only from small laboratory and pilot scale simulations and their relevance to the RFAAP's scenario has been questioned. To resolve this issue, the RFAAP has asked the U.S. EPA's Office of Research and Development (ORD) to conduct sampling and quantification of emissions.

Draft QAPP attached.

### B. Personnel (List EPA personnel only)

NOTE: Each signatory certifies the statement below:

"I have reviewed this Safety Health and Environmental Management Protocol for Field Activities and agree to comply with all procedures and protective measures outlined in the protocol."

Name	Signature	*Medical Monitoring	*Field Activity Training	*First Aid	*AED/CPR	*HAZWOPER
Brian Gullett	<u>[Signature]</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bill Mitchell	<u>[Signature]</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Xiaochi Zhou (student Contractor)	<u>[Signature]</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Johanna Aurell (UDRI)	<u>[Signature]</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Indicate if personnel are: 1) Participants in the Occupational Medical Surveillance (Medical Monitoring) Program and 2) Up-to-date in Field Activity Safety Training and/or any other training.  
 If no, provide explanation in Comments section below.

Comments: \_\_\_\_\_

C. Location(s) where work will be conducted (include site name and address)

Site Name: Radford Army Ammunition Depot, 4050 Peppers Ferry Rd NW, Radford, VA 24141

Is this site a remote location ☒ or an urban setting ☐?

Will the project require overnight camping in the field? Yes ☐ No ☒

If site is in a remote location, include a map and global positioning system or longitude/latitude coordinates.

Is this site domestic ☒ or international ☐?

If site is international, complete Part 5 of this form.

Identify the type(s) of environments the study will be conducted in:

☐ Mobile Laboratory

☒ Non-EPA Laboratory

☐ Terrestrial Ecology

☐ Aquatic Ecology

☐ Industrial Site

☐ Other \_\_\_\_\_

Will research equipment be decontaminated in the field? ☒ Yes ☐ No

If yes, describe decontamination procedures and waste generated.

Equipment wipes. Little other contamination expected.

#### D. Contact Personnel for Field Site

Contact Name: Mr. Jay Stewart, 540-639-7785, 540-200-9536 cell

#### E. Transportation

Will a Government vehicle to be taken? ☒ Yes ☐ No

If yes, has the most suitable and fuel efficient vehicle for the task been chosen? ☒ Yes ☐ No

Please describe. Two vans will take four people and our equipment and luggage.

If yes, is a first aid kit available? ☒ Yes ☐ No

If yes, is a fire extinguisher available? ☒ Yes ☐ No

If yes, please list other supplies that will be available.

F. Copies of Forms (Motor Vehicle Accident, Injury/Illness) Available? ☒ Yes ☐ No

### PART III: HAZARD INFORMATION

#### A. Potential Hazards Encountered during Field Study (List various tasks. Repeat if multiple hazards or controls)

Task	Hazard Category	Hazard	Controls	PPE

Sampling	Physical	Sunburn		Hats, sunscreen
Ash collection	Chemical	Inhalation	Minimal agitation	Mas with pink cartridge
Sampling	Physical	Noise (up to 75 dB)	Distance	Ear plugs

\*When respirator is checked, personnel using respirators must have been properly trained and fitted for the respirator within the past twelve months. Individuals using a respirator must be enrolled in the Respiratory Protection Program to remain eligible to wear respiratory protection equipment of any kind.

1. Identify any locations on the site that EPA personnel are restricted from entering. (Note: Employees are not authorized to enter confined spaces.)

Burn pan area during ignition. Site is controlled by Radford personnel.

2. Identify any pre-field visit vaccinations that are necessary.

\_\_\_\_\_ Tetanus

\_\_\_\_\_ Hepatitis A (wastewater)

\_\_\_\_\_ Hepatitis B (blood, body fluids)

\_\_\_\_\_ Other

☒ None Required

3. Describe the level of physical exertion required:

\_\_\_\_\_ Low (Office work)

☒ Moderate (Frequent walking)

\_\_\_\_\_ High (Frequent climbing, lifting)

#### B. Toxicity of Materials to be Used

1. Will any chemical materials be used that are considered hazardous agents by the ORD SHEMA Office?

A hazardous agent, as defined by the ORD SHEMA Office, a hazardous agent exhibits one or more of these characteristics:

<ul style="list-style-type: none"> <li>- Has an LD50 (oral, rat) &lt; 50 mg/kg body weight</li> <li>- Has an inhalation LC50 toxicity (rat) &lt; 2mg/liter or &lt; 200 ppm</li> <li>- Has a dermal LD50 toxicity (rabbit) &lt; 200 mg/kg</li> <li>- Has an occupational exposure limit (OSHA, NIOSH or ACGIH) <math>\leq</math> 1 ppm</li> <li>- Causes teratogenic or mutagenic effects (in humans or animals)</li> <li>- Is an infectious biological agent (as defined by CDC and/or NIH)</li> </ul>	<ul style="list-style-type: none"> <li>- Is an explosive or violently reactive agent (shock sensitive, peroxide forming, and/or incompatible with moisture/air)</li> <li>- Is a sensitizing agent</li> <li>- Nanoparticle research involving the use or manufacture of particles (Bucky balls, nano tubes, quantum dots, etc.) that is not contained in solution and/or with the possibility of airborne exposure.</li> <li>- Is an agent whose toxicological characteristics are unknown, but it is suspected of meeting one of the above criteria.</li> </ul>
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**\*EXCEPTION:** Standards ordered from vendors in sealed vials or ampoules that are used directly in laboratory instrumentation are exempt even if they meet the above criteria.

\_\_\_\_ Yes ☒ No      If yes, list in the table below:

**C. Hazardous Agent(s):**

Provide the following information for any hazardous agent that will be taken into the field by EPA personnel.

Chemical Name	CAS No.	Physical Form	Quantity Taken in Field	Condition / Method of Storage and Transport	DOT Labeling Requirements (Contact ORD SHEM Office for assistance at 1-2613)

**\*Attach a copy of Material Safety Data Sheet (MSDS) for each chemical listed above, or a copy of information found in NIOSH Registry of Toxic Effects of Chemical Substances**

**D. Hazardous Waste Disposal**

(Fill out the following information only if you are taking materials into the field and anticipate generating waste materials that must be returned to an EPA facility.)

Type of Waste Generated	Waste Volume	Time Period (e.g., weekly solvent waste)	Any unused stock? (yes or no)	If unused stock, will it be kept on site or disposed of?

No hazardous waste being generated.				
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**PART IV. EMERGENCY PROCEDURES**

*This information must be coordinated with representatives from the field site. This refers to the emergency procedures dictated by the site personnel.*

**A. In the event of an accident or chemical/biological spill:**

1. Describe procedures in event of personal exposure (inhalation, ingestion, inoculation, asphyxiates, flammables, corrosives, etc.):

EMS and Fire Dept. on site. 540-639-7323. All personnel will program into their mobile phones.

2. Describe plans for containment to prevent spread of the agent from the immediate area, decontamination procedures and monitoring methods to assure decontamination.

NA

3. Describe the procedures for emergency evacuation of the facility.

To be briefed prior to work initiation; also daily Safety Briefing.

**B. In the event of a medical emergency:**

1. Emergency phone number (is 911 available or does facility have its own medical emergency number)?

EMS and Fire Dept. on site. 540-639-7323. All personnel will program into their mobile phones.

2. Is response by EMS available? ☒ Yes ☐ No

3. Include the hospital name, address, phone number and location relative to the site if EMS crew will not be available to provide emergency transportation.

Hospital: New River Valley Medical Center, 2900 Lamb Circle, Christiansburg, VA 24073 (540-731-2000)  
Medical Center

\*Please attach (copy and paste) map or directions for first response hospital closest to site:

1. Is first response hospital equipped to handle:

☒ Burns?

☒ Chemical splashes (skin, eye, respiratory)?

☒ Chemical burns?

☒ Severe Trauma?

☒ Insect stings, bites, etc.

If the answer to any of the above is no, designate an alternate facility that can handle these types of injuries.

Hospital: \_\_\_\_\_

Address: \_\_\_\_\_

Phone #: \_\_\_\_\_



Trip to:

**Carilion New River Valley Medical Center**

**2900 Lamb Cir**

Christiansburg, VA 24073

(540) 731-2720

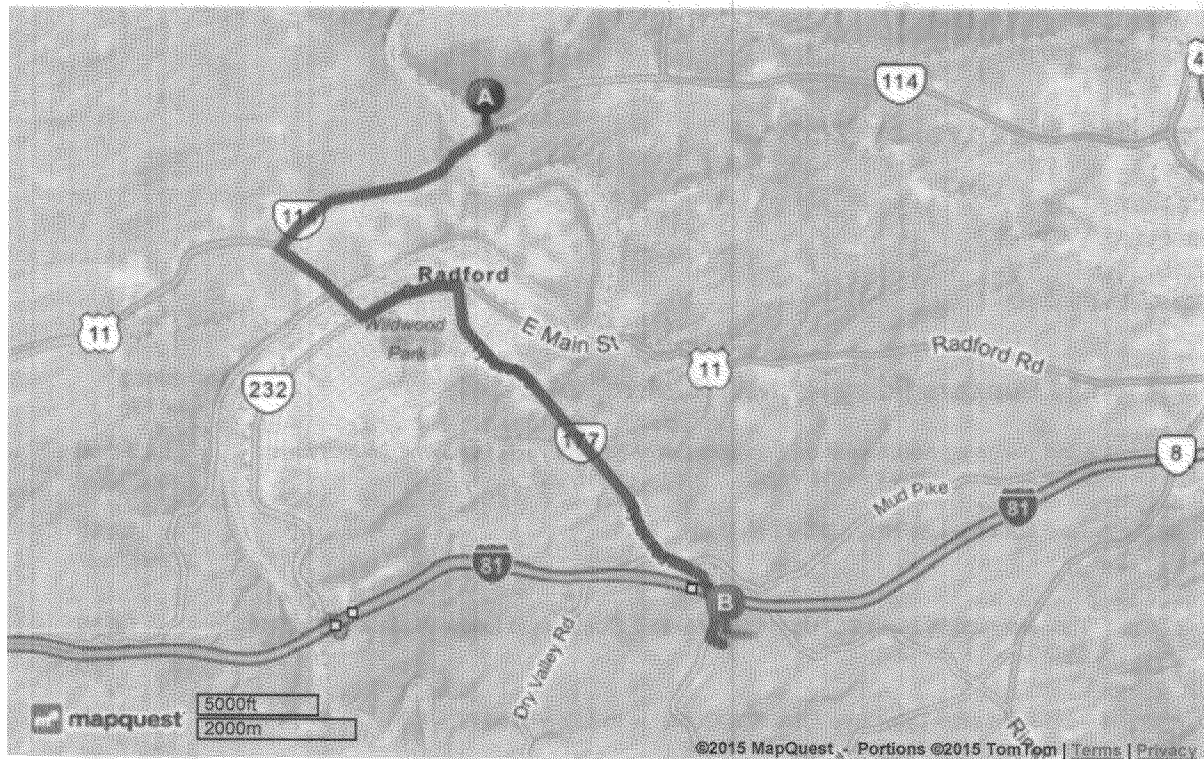
9.47 miles / 15 minutes

Notes

	4050 Peppers Ferry Rd NW, Radford, VA 24141	Download Free App
	1. Start out going <b>southwest</b> on <b>Peppers Ferry Rd NW / VA-114</b> toward <b>Riverview Rd</b> . Continue to follow <b>VA-114</b> . <a href="#">Map</a>	<b>2.5 Mi</b> 2.5 Mi Total
	 2. Turn <b>left</b> onto <b>Lee Hwy / US-11 N</b> . <a href="#">Map</a>	<b>1.1 Mi</b> 3.6 Mi Total
	 3. Turn <b>left</b> onto <b>W Main St / US-11 N / VA-232</b> . Continue to follow <b>W Main St / US-11 N</b> . <a href="#">Map</a>	<b>1.0 Mi</b> 4.6 Mi Total
	4. Turn <b>right</b> onto <b>Tyler Ave / VA-177</b> . Continue to follow <b>VA-177</b> . <a href="#">Map</a> <i>VA-177 is 0.2 miles past 3rd Ave Screamers Sports Grill is on the right If you reach University Dr you've gone about 0.3 miles too far</i>	<b>4.3 Mi</b> 8.9 Mi Total
	5. Stay <b>straight</b> to go onto <b>Tyler Rd</b> . <a href="#">Map</a>	<b>0.4 Mi</b> 9.3 Mi Total
	6. Turn <b>left</b> onto <b>Lamb Cir</b> . <a href="#">Map</a> <i>Lamb Cir is just past Whiffletree Ln If you reach Whiffletree Ln you've gone about 0.1 miles too far</i>	<b>0.1 Mi</b> 9.5 Mi Total
	7. <b>2900 LAMB CIR</b> is on the <b>left</b> . <a href="#">Map</a> <i>Your destination is at the end of Lamb Cir</i>	
	<b>Carilion New River Valley Medical Center</b> 2900 Lamb Cir, Christiansburg, VA 24073 (540) 731-2720	



Total Travel Estimate: **9.47 miles - about 15 minutes**



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